British Journal of Education
Vol.11, Issue 4, 59-65, 2023
Online ISSN: 2054-636X (Online)
Print ISSN: 2054-6351(Print)
Website: https://www.eajournals.org/
Publication of the European Centre for Research Training and Development-UK

Influence of Covid-19 Pandemic on Teachers and Students' Interaction in Basic Science in Junior Secondary Schools in Ekiti State, Nigeria

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doi: https://doi.org/10.37745/bje.2013/vol11n45965 Published April 10, 2023

Citation: Adegbola F.F. (2023) Influence of Covid-19 Pandemic on Teachers and Students' Interaction in Basic Science in Junior Secondary Schools in Ekiti State, Nigeria, *British Journal of Education*, Vol.11, Issue 4, 59-65

ABSTRACT: T*his study considered the impact of Covid -19 pandemic on Teachers' and Students interaction in Basic Science Classrooms in junior secondary schools in Ekiti State. The research procedure involves descriptive research of survey type. Participants were 320 Basic Science students which were randomly selected across four Local Government areas in Ekiti State. Data were collected with the instruments titled Impact of Covd-19 pandemic on teachers' classroom interaction (IC-19TCI) and Impact of Covid-19 pandemic on students' classroom interaction (IC-19SCI). The reliability of the instruments was determined through Cronbach Alpha and this yielded a correlation coefficient of 0.78 and 0.75 for IC-19TCI and IC-19SCI, respectively at 0.05 level of significance. Descriptive statistics such as frequency count, percentages, means, graphs and standard deviation were used to analyze the data. The results revealed that the impact of COVID-19 Pandemic on teachers' interaction in the classroom was negative.*

KEY WORDS*:* Covid-19, pandemic, teachers, students, interaction, basic science

INTRODUCTION

Teaching entails the exposure of students to certain experiences. Teaching and learning do not only occur in the classroom alone as teaching and learning occur everywhere. Effective teaching takes place where the entire process involves active participation and full involvement of the teacher and learner (Owolabi 2004). During the course of teaching, someone imparts knowledge, gives instruction and educates. In other words, teaching involves two parties; the teacher, and the learner, who is being thought. It takes place in a specifically designed manner in which directive knowledge is imparted to learners in the classroom. Instruction by the teacher in the classroom influences students' anticipation for effective learning. Therefore, teaching must be well planned for and enough time must be given to it in order to acquire the best from the learning process.

Learning is an important process in life. It affects a child's development and all aspects of his life. It involves adapting to ever-changing environments and using continuously updated

knowledge gained through experience. Learning is referred to as a mental category that helps us to understand an event, providing ideas of relevant features around us. In order to learn, a learner is often required to do some comparing and contrasting of categories or groups that contain concepts relevant to the subject being taught. Brasford, Barron and Pea (2007) noted that effective and transformative learning can be achieved if the learning content is delivered using cognitive-emotional pedagogy. In this regard, it is very clear that no learning can take place without proper teaching. The interaction between teacher and students can only facilitate learning. Bolarinwa and Okolocha (2016) noted that lots of classroom interactions, including loud reading, debates and discussions, storytelling interactive sessions and conversation exist between teachers and students. However, the learning process ultimately depends on the personality of the teacher. He added that the full participation of students to varying degrees with the teacher determines the achievement rate. In fact, teaching occurs when information is communicated directly from a teacher to learners. If there is no communication, there is no teaching. Thus, teaching is supposed to give important information to students' needs through the interaction of teacher and learners in the classroom. Brown in Hanum(nd) stated that interaction involves learners being fully engaged in effective learning in order to enhance their own communicative abilities and building their personalities. Based on this, students are required to operate in a healthy environment socially to increase performance Gilavand (2016). Hence, adaptability to a varying environment depends largely on the knowledge gained through learning. Learning helps learners to meet up with the laid down guidelines through effective teaching thereby achieving the goals of the school curriculum. The implication of this is that teachers must be able to teach the contents of the school curriculum effectively. The involvement of teachers and learners in delivering learning effectively in the classroom is very paramount to the performance of students. Hence, this helps learners to simplify any complex concept whenever learning takes place. Learning without reflection is a waste and reflection without learning is dangerous (Confucius, 2019). Harrison (2021) in his study, submitted that there are many demonstrations of behaviours that are not considered appropriate social conduct during students- teachers' interaction in the classroom which usually influences students' role modelling which in turn disturbed the learners emotionally. In the same vein, Gege in Harrison (2021) added that an unconditional emotional atmosphere could lead to weakness of interest, full participation and performance in the process of classroom teaching and learning.

The lockdown experience during the COVID-19 pandemic placed a hold on every activity including teaching and learning. This has affected the interaction between teacher and learner for a longer period which in consequence has adversely considered affecting the school curriculum. Learning is vital for human development. (Bransford, Brown, and Cocking, 2000) contributed that how much knowledge a student had acquired in the classroom through their achievement /performance is often used as an instrument for judging the success of the learning process by parents, teachers and policymakers. So, it is important to know that teachers and students' abilities are not fixed, but continuously developing through the teaching process. The amount of knowledge acquired described the quality which someone possesses (De Corte, 2010). The ability of a student to learn, process and retain information taught in the classroom is the most important indicator of the academic success of such a student (Reavis et al in Barbra, 2007). Friesen and Jardine (2011) also contributed that the achievement in the classroom is

actual work that reflects the authenticities of the topics taught. Learning is impeded any time students and teachers cannot interact to solve problems which can be professionally evocative and meaningful to them. Students need to achieve the required competencies needed to fully participate meaningfully at any level (Brasford, Baron, and Pea 2007). These researchers concluded that investing time and effort in problem-solving are important factors influencing the success of learning. In line with this, (Dweck, 2006) asserted that success is the ultimate functional goal of ability exerted to achieve learning. However, Marzano and Marzano, Pickering 2003 said that negative teacher-student relationships enable students not to feel secure in their learning environment. Baker et al, (2008) said this fails to provide support for important social and academic skills. Learning is supposed to be a continuous process through different stages and this must also be achieved through the implementation of the curriculum. Today, it seems that learning which is supposed to be more dynamic in schools is done at a slow pace due to the effect of the COVID-19 pandemic.

Purpose of the study

1. The purpose of this study is to evaluate the impact of the COVID-19 pandemic on teachers' and students' interaction in Basic Science in junior secondary schools in Ekiti State Nigeria. Specifically, the objectives include: examining the influence of the COVID-19 pandemic on teacher and student interaction in the process of teaching and learning. It is also to examine the influence of COVID-19 on the teaching and learning of Basic Science.

Evaluation Questions

The following evaluation questions were raised for the study.

1. To what extent does the COVID-19 pandemic influence the interaction of teachers and students in the Basic Science classroom?
2. Did COVID- 19 pandemic allow the objectives and contents of Basic Science texts fully taught?
3. Did the presence of the COVID-19 pandemic allow enough periods on the school time-table for curriculum implementation?
4. Are the teachers cooperating in the teaching of Basic Science in the classroom due to the COVID-19 pandemic?
5. Did the COVID-19 pandemic allow for a conducive environment for the teaching and learning of Basic Science in the classroom?
6. Did the presence of the COVID-19 pandemic allow enough periods on the school time-table for curriculum implementation?
7. Did the COVID-19 pandemic allows for a conducive environment for the implementation of the Basic Science Curriculum?

Research hypotheses

The following research hypotheses were tested at0.05 level of significance.

1. COVID- 19 will not significantly influence the teaching and learning of Basic Science in the classroom.
2. COVID -19 pandemic will not significantly allow the objectives and contents of Basic Science curriculum be fully taught.

3. COVID -19 pandemic will not significantly allow teachers to interact with the students for effective teaching in the classroom

METHODOLOGY

Research Design:

The study adopted descriptive of the survey type research and correlation design to examine the influence of COVID-19 on the teacher's interaction in teaching and learning of Basic Science. This design seems suitable for this study because it involves the evaluation the implementation of curriculum of Basic Science under COVID -19 influence which also involves the collection of extensive and cross -sectional data for the purpose of describing and interpreting an existing situation under study.

Sample and sampling procedure

The sample for this study was made up of 320 junior secondary II students and 16 Basic Science teachers which were selected using multistage sampling procedure. The first stage involved the use of random sampling technique for the selection of four local government areas. The second stage involved the purposive selection of two schools in each of the local government areas (making a total of eight junior secondary schools). The third stage involved the random sampling sample selection of 40 students from each school (making a total of 320 students). The fourth stage was the selection of two Basic Science teachers from each school (making a total of 16 teachers). In all, the total samples of 320 of Basic Science students and 16 Basic Science teachers were selected for the study.

Research Instruments

1. Two instruments were used to elicit information from the respondents and they are: teachers' classroom interaction (IC-19TCI) and Impact of Covid-19 pandemic on student's classroom interaction (IC-19SCI). It has two sections. Section A seeks information on students' bio- data. Section B requests information on the extent to which COVID-19 pandemic influence teacher and student interaction for effective teaching and learning to take place in the classroom. Section C request information on the influence of COVID- 19 on the teaching and learning of Basic Science in the classroom. This consists of 20 items to which the respondents are to respond on the basis of four options strongly Agree, Agree, Disagree or Strongly Disagree. Section D seeks information on the effect of the COVID-19 pandemic on the achievement of curricula objectives. It consists 20 items to which the respondents are to respond on the basis of options Agree (A) and Disagree (D). The positive answer (Agree) carries 1 mark while the negative response (Disagree) carries 0 marks. These items were given to four experienced curriculum experts and three experts in the area of Tests, Measurement and Evaluation from Ekiti state university, Ado Ekiti and three Basic Science teachers from Secondary Schools in Ado Local Government areas, Ado Ekiti for face and content validities respectively. Cronbach alpha was used to determine the reliability of the instruments from which yielded reliability co-efficient of 0.79, 0.86, 0.83 respectively.

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Data Analysis
The data collected were analyzed using descriptive statistics such as frequency counts, percentages, means, charts and standard deviation.

RESULTS

Hypothesis 1: COVID-19 pandemic will not significantly allow teachers to interact with the students for the implementation of basic science curriculum

Table 1: COVID-19 pandemic and teachers' interaction towards the implementation of Basic Science Curriculum

Variable	N	Mean	S.D	df	t_{cal}	t_{tab}
COVID-19 Pandemic	16	10.27	8.63			
Teachers' Interaction	16	8.15	5.79	15	2.357*	2.131

*p<0.05 (Significant Result)

Table 1 shows that t_{cal} (2.357*) is greater than t_{tab} (2.131) at 0.05 level of significance. The null hypothesis is not accepted. This implies that COVID-19 pandemic will significantly allow teachers to interact with the students for the implementation of Basic Science Curriculum.

Hypothesis 2: COVID-19 will not significantly influence the teaching and learning of Basic Science in the classroom.

Table 2: COVID-19 pandemic and teachers' interaction towards the implementation of Basic Science Curriculum

Variable	N	Mean	S.D	df	t_{cal}	t_{tab}
COVID-19 Pandemic	320	24.16	13.15			
Teaching/Learning of Basic Science	320	16.35	11.26	319	2.613*	1.960

*p<0.05 (Significant Result)

Table 2 shows that t_{cal} (2.613*) is greater than t_{tab} (1.960) at 0.05 level of significance. The null hypothesis is not accepted. This implies that the presence of COVID-19 pandemic will significantly influence the teaching and learning of Basic Science in the classroom.

DISCUSSION

The result of the study revealed that the COVID-19 pandemic will allow teachers to interact with the students for the implementation of the Basic Science Curriculum. The result is consistent with that of (Freisen and Jarden 2004, Barbradozier 2014) who noted that academic success is the most important factor that indicates the authenticity and sense of the knowledge of learners which reveals the actual realities of topics taught in the classroom. The study of (Marzano and Marzano 2003 and Baker et al 2008) contradicted that negative teacher-student relationships enable students not to feel secure in their learning environment. The result of this study also revealed that COVID-19 will significantly influence the teaching and learning of

Basic Science in the classroom. The result is consistent with the findings of (Owolabi 2004, Bransford, Baron and Pea 2007, and Dweck (2006) who said more effective and transformative learning is achieved where the learning content is delivered using cognitive emotional pedagogy that students gain the competencies required to fully participate meaningfully contribution which results to ability exerted to achieve learning. However, the studies of (Harrison, and Gege in Harrison 2021) said that unconditional emotional atmosphere could lead to lack of interest, participation and performance in the teaching and learning processes in the classroom.

Recommendation

Based on the findings above, it is recommended that there is a need for the government and school management to create conducive learning environment that will give room for the maintenance of COVID-19 pandemic protocols and guarantee effective implementation of curriculum objectives and contents adequately. Also, the school management should maintain and ensure a strict adherence to the COVID 19 protocols, the actual school time table and also organize extra lessons for students for proper implementation of school curriculum.

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